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ABSTRACT

This report uses data from the Health and Retirement Survey (HRS) to analyze transitions in disabilities and employment from 1992 to 1994, the first two waves of the HRS survey. The survey included people ages 51 to 61 years of age in 1992, resulting in 8,737 participants. The report estimates the incidence of disabilities from 1992 to 1994 and explores the effect that developing a disability has on maintaining employment. Results of the survey indicate: (1) the prevalence of disability increased from 28.6 percent in 1992 to 30.4 percent in 1994; (2) disability was associated with lower employment rates and persistent disability was associated with the lowest employment rates; (3) among all respondents, employment rates declined from 69.9 percent in 1992 to 63.6 percent in 1994, and people who developed disability experienced a substantial decline in employment rates at 25.2 percent; (4) people with disability in both 1992 and 1994 who were not employed in 1992 reported low rates (61 percent) of job entrance; and (5) the effect of disability on employment was greater for men than for women and for racial/ethnic minorities than for whites. (Contains 10 references.) (CR)

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Transitions in Employment and Disability Among People Ages 51 to 61

by

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INTRODUCTION

During the sixth decade of life, many people experience changes in their health and job status. Often, the prevalence of health problems and disabilities increases substantially while work activities either cease or become less important.

Relatively little is known, however, about how frequently these transitions occur or the role that disability—defined as a health condition or impairment that limits one's activities—plays in decisions to retire or to work less (Burkhauser & Gertler, 1995). To address these issues, the National Institute on Aging initiated the Health and Retirement Survey (HRS) in which people 51 to 61 years of age in 1992 will be followed every two years for as long as a decade (Juster & Suzman, 1995).

The present report uses data from the HRS to analyze transitions in disability and employment from 1992 to 1994, the first two waves of the HRS survey. In this report, we estimate the incidence of disability from 1992 to 1994, and explore the effect that developing a disability has on maintaining employment. The analysis is set against the backdrop of an economic upturn.

The Current Population Survey indicates that the overall employment rates for people ages 45 to 64 increased from 66.8 percent in 1992 to 68.5 percent in 1994 (U.S. Bureau of the Census, 1993, 1995). Therefore, we also look at the likelihood of entering the labor market during these two years, in relationship to disability status.

HIGHLIGHTS

Transitions in Disability

The prevalence of disability, defined as being limited in activity due to a health condition or impairment, increased from 28.6 percent in 1992 to 30.4 percent in 1994. However, this increase masks the substantial number of people who became disabled and recovered within this time frame.

- Among the 16.6 million people without disability in 1992, the incidence of disability from 1992 and 1994 was 13.4 percent.

- Among the 6.7 million people with disability in 1992, 24.4 percent did not report disability in 1994.

Employment Rates in 1992 and 1994

Disability was associated with lower employment rates, and persistent disability was associated with the lowest employment rates. However, recovery from disability was associated with relatively high employment rates.

- The employment rate among people with disability in 1992 was 45.9 percent, compared with 79.3 percent among people without disability.

- The 1994 employment rate among people with disability in both 1992 and 1994 was only 31 percent.

- The 1994 employment rate among people with disability in 1992, but not in 1994, was 70.4 percent, which is just slightly lower than the employment rate among people without disability.

- Among people without disability, employment rates in 1992 were nearly identical for non-Hispanic whites and racial/ethnic minorities. However, among people with disability, the rates varied: Only 28 percent of racial/ethnic minorities had jobs, while 50.6 percent of non-Hispanic whites were employed.

Change in Employment Rates from 1992 to 1994

Among all HRS respondents, employment rates declined from 69.9 percent in 1992 to 63.6 percent in 1994, or 9 percent in relative terms.

- People who developed disability from 1992 to 1994 experienced a substantial decline in employment rates, 25.2 percent.

- In 1992, employment rates among men with disability fell more sharply than the rates among men without disability: Relative declines were 14.2 and 8.3 percent, respectively.

- In 1992, the disability status rates among women did not affect the decline in employment rates: Women with and without disability experienced 6.7 and 8.9 percent decreases, respectively.

- The gender difference is due in large part to the relative stability in employment rates among women with disability in both 1992 and 1994, in contrast to the steep decline among men with disability in both years.

- Employment rates among non-Hispanic whites declined about equally for those with and without disability. Among racial/ethnic minorities with disability, employment rates declined far more than among racial/ethnic minorities without disability (19.7 vs. 9.1 percent).

Transitions into and out of Employment

Entrance into Employment

People with disability in both 1992 and 1994 who were not employed in 1992 reported low rates of job entrance: 6.1 percent. The rate of job entrance among people with disability in 1992 but not in 1994—21.9 percent—was similar to the 19.6 percent rate of job entrance among those without disability in either year.

- Among people without disability, men were

more likely to enter the job market than women. Among people with disability, job entrance was equally common for men and women.

Maintaining Employment

People with disability in both 1992 and 1994 and those who developed disability from 1992 to 1994 *and* who were employed in 1992 were less likely to stay employed than those without disability in either year or those who recovered from their disability before the end of 1994.

Impact of Disability on 1994 Employment (controlling for demographic characteristics and health status)

The effect of having disability on employment was greater for men than for women, and for racial/ethnic minorities than for non-Hispanic whites.

- Women with continuing disability were about half as likely to be employed as women without disability; men with continuing disability were 30 percent as likely to work as men without disability.

- While the odds of employment for non-Hispanic whites with disability were 40 percent those of non-Hispanic whites without disability, the odds of employment for racial/ethnic minorities with disability were only 20 percent those of racial/ethnic minorities without disability.

METHODS

Data Source

This report uses data from the Health and Retirement Survey (HRS), a national probability sample of non-institutionalized people and their spouses born from 1931 to 1941 (Heeringa & Connor, 1995). The HRS is a longitudinal panel survey with interviews every two years beginning in 1992. The survey includes extensive data on health and disability status, and measures of current and prior employment. The first two years of data are analyzed here.

The present analysis included respondents who were ages 51 to 61 in 1992, thus omitting any individuals outside the 1931 to 1941 birth cohort. We also excluded anyone who did not complete both waves of the survey, although people who died after the first interview were included in the portion of the analysis related to transitions in disability. The final sample included 8,862 respondents, 125 of whom died before the 1994 interview.

Definitions

There are several potential ways to identify people with disability in the HRS. First, the employment-status question includes "disabled and unable to work" as one of several possible responses, along with "working," "looking for work," "attending school," and so on. Using this response to define disability would create an obvious tautology in an analysis of the relationship between employment and disability. Second, the health-status section contains questions related to physical functioning that identify difficulties in performing various tasks that require a wide range of skills, from basic activities of daily living (e.g., eating, dressing, toileting) to jogging a mile. There are also questions about limitations in paid work, in housework, and in any activity.

We decided to use this *activity-limitation measure* because it is most consistent with other health surveys, such as the National Health Interview Survey. This measure also reflects the spirit of the Americans with Disabilities Act, which bases the definition of disability on a person's interaction with the social environment, rather than on strictly personal characteristics. In this report, therefore, a person is considered to have a disability if he or she reports a limitation in work, in keeping house, or in another activity that is due to a health condition or impairment. Because this measure includes a range of activities in addition to work, it is less susceptible to critiques of tautological reasoning than if it included only work. Unfortunately, only the work-limitation section has a question regarding date of onset; therefore, we are unable to determine the duration of disability for all people reporting an activity limitation.

The employment measure we use in this analysis is simply the proportion of the total population with a job, sometimes called the employment-population ratio, but referred to here as the *employment rate*. This measure combines two groups of non-workers: the unemployed, who are temporarily out of work, and those people who are out of the labor force. Although the two groups would probably experience different patterns of employment transitions, separating them is not feasible because the unemployed group does not yield a large enough sample to allow for a meaningful analysis of disability and employment transitions.

Disability status and employment status are ascertained at two discrete points in time; differences in status between these points represent transitions over the two-year period. However, these transitions may have in fact occurred at any point between the first and second interview. In most scenarios, the timing of the changes would not affect our analysis. However, in a case in which a person reports leaving work and developing disability between the two interviews, the timing of those two changes becomes relevant. If the respondent first leaves work and later develops an activity limitation, that activity limitation should not be construed as part of the decision-making process to leave the labor force.

Of particular concern is the potential for a person to ascribe his or her lack of work to a work limitation *ex post facto*. Because the date of the onset of work limitations and the date last worked are included in the 1994 dataset, we are able to identify the 22 respondents for whom this situation might apply. We have recoded their 1994 status to "no disability," since at the relevant point to our analysis—the exit from a job—they were not yet reporting an activity limitation.

Statistical Analysis

The HRS sample was constructed using a national multistage probability design, with systematic oversampling of blacks, Hispanics, and residents of Florida (Heeringa & Connor, 1995). To take into account the complex nature of the design, we used SUDAAN software for the calculation of standard errors and computation of statistical tests (Shah, Barnwell, & Bieler, 1996). SUDAAN made use of the Taylor series linearization method. Differences mentioned in the text are significant at the 95 percent level of confidence ($p<.05$), unless otherwise stated.

Univariate and Stratified Analysis

We began by calculating the proportion of respondents with and without disability at each interview, stratified by gender and by race/ethnicity. This process yielded estimates of the overall rates of disability in 1992 and 1994, the two-year incidence of disability, and the two-year recovery rate (i.e., the percentage of the population reporting disability in 1992 but not in 1994). In addition, because we included respondents who died between the two waves, we were able to report two-year mortality rates for the populations with and without disability in 1992. We calculated chi-square statistics to test for gender and race/ethnicity differences in the likelihood of developing disability or recovering from one in 1994.

Next, we added the dimension of employment status to the disability transition matrix. This allowed us to estimate the overall employment rates in 1992 and 1994. We estimated these rates and their 95 percent confidence intervals for four disability status groups: no disability in 1992 or 1994, disability at both interviews, disability in 1992 but not in 1994, and disability in 1994 but not in 1992. As noted earlier, people who died between the first and second interview were excluded from this analysis. Once again, the population was disaggregated by gender and by race/ethnicity.

Next, we calculated the relative change in employment rates—the difference in the employment rates from 1992 to 1994, expressed as a percentage of the 1992 rate. To compare the relative change by disability status, by gender, or by race/ethnicity within disability status groups, we first calculated a variance for the ratio of 1994 to 1992 rates, using a method proposed by Rice (1995) that takes into account the correlation between the numerator and denominator of the ratio. This variance is then used in the calculation of t-tests to establish the statistical significance for those comparisons discussed in the text.

Relative changes in employment rates are the net result of employed people leaving work and of unemployed people starting work; the identical percent change could arise from any number of very different scenarios. Thus, it is important to look at transitions into and out of work separately to determine what is behind the changes in employment rates. Accordingly, we calculated the percentage of people who left work since the first interview, and the percentage who began work from 1992 to 1994, and the 95 percent confidence interval for each measure, by disability status, gender, and race/ethnicity. Once again, t-tests were used to evaluate the statistical significance of differences discussed in the text.

Multivariate Analysis

To factor out the effect of disability and disability transitions on employment from the numerous interrelated demographic, health, and employment variables, we developed a logistic regression model of the likelihood of employment in 1994. The four disability states were included in the model as three indicator variables, with no disability in either interview serving as the referent group.

Age was an important predictor of both disability and employment. Thus, we also included a set of indicator variables for one-year increments of age, to allow for non-linear relationships. Other demographic variables in the model included gender; race/ethnicity (comparing non-Hispanic whites with all other racial/ethnic groups); education (no high school diploma, high school graduate, some college, college degree, and post-graduate); region of the country (Northeast, South, Midwest, or West); marital status (married, never married, widowed, separated, or divorced); and a variable for change in marital status between the two interviews.

Health status was measured with a set of variables for self-reported physical health and for mental health, each with five categories ranging from poor to excellent. The model included several variables concerning 1992 and earlier employment. Two variables captured the effect of employment history: one for current employment in 1992, and one for employment prior to 1992 for people who were not employed at the time of the first interview. The model also included variables that identified self-employment and part-time employment in 1992.

Due to evidence from prior research on the complex interactions in the relationships between employment, gender, disability, and race/ethnicity (Trupin, Sebesta, & Yelin, 1997), we tested interaction terms for disability with race/ethnicity and with gender, and a second-order term for the combined effect of disability, gender, and race/ethnicity. This second-order term did not improve the fit of the model. Disability showed evidence, however, of significant interactions with both gender and race/ethnicity.

Accordingly, we fit two models with interaction terms for disability with gender and race/ethnicity, respectively. The final models each provided a good fit to the data, based on the results of the Hosmer and Lemeshow Goodness-of-Fit test (Hosmer & Lemeshow, 1989). From the logistic regression output, we calculated odds ratios and confidence intervals for the likelihood of employment in 1994 separately by gender and by race/ethnicity to examine the differing effects of disability transitions on employment for these groups.

RESULTS

We first present the results of the analysis of transitions in disability, including in our sample people who died between the 1992 and 1994 interviews. Then, we present 1992 and 1994 employment rates—by disability status, gender, and race/ethnicity. Subsequently, we discuss movement into and out of employment for the four disability states: no disability reported in 1992 or 1994, disability reported at both interviews (termed "continuing disability"), disability reported in 1992 but not in 1994 (termed "recovery"), and disability reported in 1994 but not in 1992 (termed "new disability").

Transitions in Disability

The proportion of people with disability increased from 28.6 percent in 1992 to 30.4 percent in 1994 (Table 1). The longitudinal structure of the HRS allowed for a direct calculation of the incidence of disability—the proportion of the 16.6 million people reporting no disability in 1992 who developed a disability by 1994. This two-year incidence rate was 13.4 percent. We could also calculate a "recovery rate" for disability—the proportion of the 6.7 million people who reported disability in 1992 who did not report disability in 1994. It appears that much of the disability reported in 1992 was short-lived: The recovery rate was 24.5 percent.

Men and women experienced similar increases in disability rates: about two percentage points over the two years, from 27.3 percent to 29.1 percent among the former, and from 29.8 percent to 31.5 percent among the latter. By contrast, racial/ethnic minorities experienced a larger increase in disability than non-Hispanic whites, from 31.3 percent to 35.6 percent for the former group, and from 28 percent to 29.1 percent for the latter. This difference was due primarily to the lower recovery rate among racial/ethnic minorities: 16.5 percent, compared with 26.6 percent among non-Hispanic whites. The two-year incidence rate of disability varied only slightly by gender or by race/ethnicity.

People with disability in 1992 were much more likely to die before the second interview than their non-disabled counterparts. The two-year mortality rate for people without disability in 1992 was 0.6 percent, compared with 2.9 percent for people with disability in 1992. The mortality estimates for most subgroups of the non-disabled population were not statistically reliable. However, the point estimates suggest that this population's mortality rates were much lower than those of the population with disability in all gender and racial/ethnic groups.

1992 Employment Rates

People with disability in 1992 had lower employment rates than those without (Table 2, column 1). This was true within each gender and racial group. Women with disabilities and those without had lower employment rates than their male counterparts. The only difference between non-Hispanic whites and racial/ethnic minorities in the rate of employment in 1992 occurred among people with disabilities. Employment rates for non-Hispanic whites and racial/ethnic minorities without disabilities were 79.6 and 77.8 percent, respectively; among those with disabilities, the rates were 50.6 percent for non-Hispanic whites and 28 percent for racial/ethnic minorities.

Disability Transitions and 1994 Employment Rates

Among people without disability in 1992, those who developed disability by 1994 had lower employment rates than those without disability. Thus, while 75.3 percent of the latter group were working in 1994, only 54.5 percent of the former group were employed at that time (Table 2, columns 5 and 8). However, people with disabilities in both years were the least likely to be employed in 1994, with an employment rate of 31 percent. This is in contrast to the recovery group (people who reported disability in 1992 but not in 1994), whose employment rate of 70.4 percent in 1994 was nearly as high as the rate of those without disability in either year (70.3 percent).

As with the cross-sectional results from 1992, the longitudinal results indicated that disability had a stronger impact on employment for racial/ethnic minorities than for non-Hispanic whites. For example, among racial/ethnic minorities, the recovery group had a lower 1994 employment rate (62 percent) than the group without disabilities (75.5 percent). Among non-Hispanic whites, there was almost no difference in these rates (Table 2, column 5). Similarly, there were greater gaps among racial/ethnic minorities than

among non-Hispanic whites between the no-disability and new-disability groups, and between the recovery and continuing-disability groups (Table 2, columns 5 and 8). Finally, racial/ethnic minorities who reported disability in both interviews had a 1994 employment rate of 14.5 percent—the lowest for any subgroup defined by race/ethnicity, gender, and disability status (Table 2, column 8).

Changes in Employment Rates, 1992 to 1994

In this section, we examined the differences in the relative change in employment from 1992 to 1994, based on disability status, race/ethnicity, and gender. Relative change is calculated as the difference in the 1994 and 1992 employment rate, expressed as a percentage of the 1992 rate. Thus, if employment rates had gone from 80 percent in 1992 to 60 percent in 1994, we would have reported that employment declined by 25 percent.

In the two years between the first and second interview, the employment rate of the population ages 51 to 61 declined by 9 percent (Table 2, column 3). People with disability in 1992 experienced a decline of 10.8 percent, somewhat larger than the decline of 8.6 percent experienced by people without disability in 1992. The greatest decline, 25.2 percent, occurred among people with new disability (column 9).

The decline in employment rates was larger for men with disability in 1992 than it was for men without disability: 14.2 percent and 8.3 percent, respectively (Table 2, column 3). Once again, the greatest decline, 24.8 percent, occurred among the new-disability group (Table 2, columns 6 and 9). For women, however, there was no substantial difference in the relative change in employment rates for those with and without disability in 1992; these rates declined by 6.7 and 8.9 percent, respectively (Table 2, column 3). This similarity is largely due to the relatively constant employment rates in 1992 and 1994 among women with continuing disability. They experienced an 8.8 percent decline in employment, in contrast to a 21.2 percent decline among men with continuing disability (Table 2, column 9).

The pattern of employment transitions also differed among non-Hispanic whites and racial/ethnic minorities, with disability continuing to have a greater impact on racial/ethnic minorities. For non-Hispanic whites, the difference in the decline in employment rates for people with and without disability in 1992 was small: 9.5 and 8.5 percent, respectively. By contrast, the employment rate for racial/ethnic minorities with disability in 1992 declined by nearly 20 percent, while it declined by approximately 9 percent among those without disability (Table 2, column 3). Comparing racial differences in the relative change in employment for each of the four disability status groups, racial/ethnic minorities had substantially steeper declines in all but the group that reported no disability in either year. For this group, the drop-off in employment was slightly lower for racial/ethnic minorities than for non-Hispanic whites (Table 2, columns 6 and 9).

All subgroups of the study population examined in this report experienced a decline in employment over the two years of the survey, as Table 2 shows. However, this net decline reflects the combined effects of many people leaving their jobs and some starting new jobs. In the following sections, we disaggregated the population according to employment status in 1992 to examine patterns of employment, exits from and entrances into employment, in relationship to disability transitions.

Transitions into and out of Employment

Table 3 shows the probability of transitions into employment for people who were not working in 1992. Of the 6.9 million people ages 51 to 61 who did not work as of 1992, about half reported disability (Table 3, column 1). As of 1994, 8.1 percent of this group had jobs, in contrast to 18.3 percent of those without disability who did not work in 1992 (Table 3, column 2).

Nearly all of the unemployed people with disability in 1992 continued to report disability in 1994. For the 439,000 people in the recovery group, however, the 1994 employment rates were identical to those of the group without disability—about 20 percent of each group had jobs in 1994 (Table 3, column 5). The 1994 employment rate for the 605,000 people who developed a disability was 12.3 percent—between that of people without disability in either year, 19.6 percent, and that of people in the continuing disability group, whose rate was only 6.1 percent. Thus, it appears that 1994 disability status has more influence on the decision to start work than does 1992 disability status.

Among those without disability in 1992, men were almost twice as likely to enter the labor force as women, with new employment rates of 27.9 percent and 14.7 percent, respectively (Table 3, column 2). By contrast, men with disability were somewhat less likely to begin working than

women with disability, reporting 6.4 percent and 9.1 percent new employment, respectively, a difference that just fails to meet the .05 criterion for statistical significance. Looking at 1994 disability status, the same picture emerges. Men without disability are much more likely than women to enter the job market (30.9 percent vs. 16.1 percent), but men with disability are no more likely to do so than their female counterparts (Table 3, column 5).

Men with continuing disability were much less likely to begin working than men with new disability (3.6 and 20.3 percent, respectively), while there was no difference in the rate of new employment among women with continuing or new disability (7.7 and 8.9 percent, respectively) (Table 3, column 8). These results must be interpreted with caution, however, because of the instability of the estimate of new employment among men with continuing disability.

Among people who reported no disability in 1992, new employment in 1994 was about as common for racial/ethnic minorities (21.9 percent) as for non-Hispanic whites (17.4 percent) (Table 3, column 2). By contrast, non-Hispanic whites with disability in 1992 were nearly three times as likely to begin working in 1994 as racial/ethnic minorities with disability, reporting new employment rates of 9.8 and 3.5 percent, respectively. This pattern is essentially repeated in the 1994 disability status groups. However, the instability of several of the estimates of the disability transition groups for racial/ethnic minorities precludes comparison of racial differences in the patterns of new employment within these smaller cells (Table 3, columns 5 and 8).

Table 4 shows the 1994 employment rates for people who worked in 1992, a measure of job retention. Overall, 85.4 percent of people ages 51 to 61 who were working in 1992 remained employed in 1994 (Table 4, column 2). There was more of a drop-off in employment among people with disability in 1992 than for those without, with job-retention rates of 79.7 percent and 86.7 percent, respectively.

Once again, it appears that 1994 disability status was more influential than 1992 status on the 1994 employment situation. Among people without disability in 1994, there were no differences in job-retention rates based on 1992 disability status: 88.1 percent of the recovery group and 89 percent of the no-disability group continued working in 1994 (Table 4, column 5). People who developed disabilities and those who reported disabilities in both years had relatively low rates of job retention: 70.2 percent and 74 percent, respectively (Table 4, column 8).

Regardless of disability status in 1992 or 1994, women were slightly less likely to remain employed that men. Racial/ethnic minorities without disability in 1994 were no less likely to continue working than non-Hispanic whites, but among people reporting disability in 1994, racial/ethnic minorities had lower rates of job-retention than non-Hispanic whites: 61.7 percent and 74.1 percent, respectively (Table 4, column 8).

Multivariate Analysis

The relationship between disability and employment is subject to confounding by the many demographic and health-related characteristics that are associated with the likelihood of both having disability *and* being employed. To account for this confounding, we developed a logistic regression model of the likelihood of employment in 1994 that controlled for age, educational attainment, marital status, physical and mental health status, region of the country, work history, and self-employment and part-time employment in 1992. Previous employment (either in 1992 or prior to that), self-employment in 1992, and being married were associated with a greater likelihood of employment in 1992, while part-time employment in 1992, age over 55, and poor health in 1992 were correlated with a decreased likelihood. The results that follow describe the interactive effects of gender, race/ethnicity, and disability status at both interviews on employment in 1994 (Table 5).

The stratified analysis shown in Table 2 indicates some effect of 1992 disability status on 1994 employment rates, particularly for those who reported a disability in 1994. However, this difference would appear to be the result of confounding. In the multivariate analyses, the likelihood of 1994 employment was unaffected by disability status in 1992. Thus, there was no difference in the odds of employment between the group with no disability and the recovery group, nor between the group with new disability and the group with continuing disability (Table 5). This pattern held true for men and women and for non-Hispanic whites and racial/ethnic minorities.

Consistent with the stratified analysis, the multivariate analyses provided further evidence of an interaction of both gender and race/ethnicity with disability status. Disability, especially continuing disability, appears to affect men more than women. Women with continuing disability were about half

as likely to be employed in 1994 as women reporting no disability. Men in this group were only 30 percent as likely to work as men with no disability (Table 5). Even after controlling for other variables that presumably influence the relationship of race/ethnicity and employment, the effect of disability on employment was greater for racial/ethnic minorities than for non-Hispanic whites. While the odds of employment for non-Hispanic whites with disability were 40 percent of those of non-Hispanic whites without disability, the odds of employment for racial/ethnic minorities with disability were only 20 percent those of racial/ethnic minorities without disability.

CONCLUSIONS

Developing disability in late middle age is not rare: In the two years covered by this analysis, 13 percent of the nondisabled population became disabled. In 1994, people with newly reported disability accounted for almost 10 percent of the population ages 51 to 61. Moreover, the effect of new disability on employment was quite substantial. Overall employment rates declined by more than 25 percent for this group, and nearly one-third of employed people left work after developing disability.

More common than developing disability over the two-year period, however, is having continuing disability. More than 20 percent of the study population had continuing disability, and fared only slightly better than the new-disability group in their overall employment rate change and in job loss. This group was also the least likely to enter the job market.

For those people who recovered from disability—about 7 percent of the sample—the employment picture was notably better. Their overall employment rates, rates of job loss, and, rates of job entrance were all quite close to the rates of people without disability. This group is likely to be an aggregate of people with short-term and intermittent activity limitations. As additional years of HRS follow-up data become available, it will be important to differentiate the people in this group, and to monitor the employment experience of those whose conditions fluctuate over time.

As we have noted in previous research that used different data sources (Yelin, 1996; Trupin, et al., 1997), the effects of having disability are greater for racial/ethnic minorities than for non-Hispanic whites. In the present analysis, new and continuing disability are associated with steeper drops in employment rates and greater job loss for racial/ethnic minorities than for non-Hispanic whites. In addition, the effects of disability on employment are more pronounced for men than for women.

These findings are upheld in the multivariate analysis as well, indicating they are not readily explained by the influence of related variables. To the extent that the Americans with Disabilities Act can improve employment opportunities for people with disabilities, it is vital that the effort involves a particular focus on the disparate impact of disabilities on racial/ethnic minorities.

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Table 1

Disability Status in 1992 and 1994, by Gender and Race/Ethnicity

	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	
	1992 Disability Status		**1994 Disability Status**						
	Total (1,000s)	(column %)	Without Disability (1,000s)	(row %)	With Disability (1,000s)	(row %)	Deceased (1,000s)	(row %)	
All People	23,315	100.0	15,948	68.4	7,077	30.4	290	1.2	
Without disability	16,643	71.4	14,313	86.0	2,233	13.4	96	0.6	
With disability	6,672	28.6	1,634	24.5	4,844	72.6	194	2.9	
Men	11,155	100.0	7,738	69.4	3,251	29.1	166	1.5	
Without disability	8,112	72.7	6,983	86.1	1,075	13.3	53	0.7	*
With disability	3,043	27.3	755	24.8	2,175	71.5	112	3.7	
Women	12,160	100.0	8,209	67.5	3,827	31.5	124	1.0	
Without disability	8,531	70.2	7,330	85.9	1,158	13.6	43	0.5	*
With disability	3,630	29.8	879	24.2	2,669	73.5	81	2.2	
Non-Hispanic White	18,922	100.0	13,178	69.6	5,513	29.1	230	1.2	
Without disability	13,625	72.0	11,770	86.4	1,783	13.1	71	0.5	*
With disability	5,297	28.0	1,408	26.6	3,730	70.4	159	3.0	
All Other Racial/ Ethnic Groups	4,393	100.0	2,770	63.0	1,564	35.6	60	1.4	
Without disability	3,018	68.7	2,543	84.3	450	14.9	25	0.8	
With disability	1,375	31.3	226	16.5	1,114	81.0	35	2.5	

Source: Health and Retirement Survey, Waves 1 & 2

* Estimate has poor statistical reliability (RSE > 30%)

Note: Columns are numbered 1-8 for ease of reference.

Table 2

1992 and 1994 Employment Rates, 95 Percent Confidence Intervals (CI), and Relative Change in Employment Rates, for People With and Without Disability in Each Year, by Gender and Race/Ethnicity

	1	2	3	4	5	6	7	8	9
				1994 Status					
				Without Disability 1994			With Disability 1994		
1992 Status	Employment Rate (95% CI) 1992	1994	Relative Change* (%)	Employment Rate (95% CI) 1992	1994	Relative Change (%)	Employment Rate (95% CI) 1992	1994	Relative Change (%)
All People[1]	69.9	63.6	-9.0	79.5	74.8	-6.0	48.2	38.5	-20.2
	(68.3, 71.5)	(62.2, 65.0)		(78.2, 80.9)	(73.6, 76.0)		(45.4, 50.9)	(35.9, 41.0)	
Without disability	79.3	72.5	-8.6	80.3	75.3	-6.2	72.9	54.5	-25.2
	(77.7, 80.8)	(71.1, 73.9)		(78.7, 81.8)	(73.9, 76.7)		(69.2, 76.7)	(50.4, 58.7)	
With disability	45.9	(71.1, 73.9)	-10.8	73.2	70.4	-3.8	36.7	31.0	-15.5
	(43.2, 48.7)	(71.1, 73.9)		(68.7, 77.7)	(66.5, 74.3)		(.34.0, 39.5)	(28.5, 33.6)	
Men	79.7	72.2	-9.4	89.1	84.0	-5.7	57.3	44.2	-22.9
	(77.9, 81.5)	(70.1, 74.4)		(87.5, 90.7)	(82.3, 85.8)		(53.6, 61.0)	(40.1, 48.3)	
Without disability	88.6	81.2	-8.3	89.4	84.1	-5.9	83.1	62.5	-24.8
	(87.2, 89.9)	(79.3, 83.2)		(87.8, 91.0)	(82.4, 85.9)		(79.2, 87.1)	(55.7, 69.4)	
With disability	55.4	47.5	-14.2	86.5	83.1	-3.9	44.6	35.1	-21.2
	(51.5, 59.3)	(43.6, 51.4)		(81.4, 91.6)	(77.8, 88.4)		(40.2, 48.9)	(31.0, 39.2)	
Women	60.9	55.7	-8.5	70.5	66.1	-6.3	40.4	33.6	-16.8
	(59.0, 62.9)	(54.0, 57.5)		(68.6, 72.5)	(64.5, 67.7)		(36.8, 43.9)	(30.4, 36.7)	
Without disability	70.5	64.2	-8.9	71.6	66.9	-6.6	63.4	47.1	-25.7
	(68.5, 72.4)	(62.4, 65.9)		(69.4, 73.7)	(65.1, 68.6)		(58.0, 68.9)	(41.8, 52.4)	
With disability	38.1	35.6	-6.7	61.7	59.4	-3.7	30.4	27.7	-8.8
	(34.6, 41.7)	(32.2, 38.9)		(55.8, 67.6)	(53.0, 65.9)		(27.0, 33.7)	(24.4, 31.0)	
Non-Hispanic White	71.6	65.4	-8.7	79.8	74.9	-6.2	52.1	42.9	-17.8
	(69.7, 73.3)	(63.9, 67.0)		(78.2, 81.4)	(73.5, 76.3)		(48.8, 55.5)	(39.9, 45.8)	
Without disability	79.6	72.9	-8.5	80.5	75.3	-6.5	73.8	57.2	-22.5
	(78.0, 81.2)	(71.3, 74.5)		(78.9, 82.1)	(73.9, 76.6)		(69.7, 77.9)	(52.7, 61.7)	
With disability	50.6	45.8	-9.5	74.0	71.7	-3.1	41.8	36.0	-13.9
	(47.3, 53.9)	(42.6, 48.9)		(69.1, 78.9)	(67.6, 75.8)		(38.5, 45.1)	(32.9, 39.1)	
All Other Racial/ Ethnic Groups	62.4	55.8	-10.5	78.3	74.4	-5.1	34.1	22.9	-32.9
	(59.6, 65.1)	(53.0, 58.5)		(76.0, 80.7)	(72.4, 76.3)		(30.0, 38.2)	(19.2, 26.6)	
Without disability	77.8	70.7	-9.1	79.2	75.5	-4.8	69.4	43.8	-36.9
	(75.2, 80.3)	(68.0, 73.4)		(76.7, 81.8)	(73.3, 77.6)		(62.4, 76.5)	(34.8, 52.8)	
With disability	28.0	22.5	-19.7	68.1	62.0	-8.9	19.9	14.5	-27.2
	(23.3, 32.7)	(18.4, 26.6)		(59.1, 77.1)	(53.4, 70.6)		(15.5, 24.2)	(10.5, 18.4)	

Source: Health and Retirement Survey, Waves 1 and 2

[1] Table excludes people who died between the first and second interviews.

* Difference in employment rates from 1992 to 1994, expressed as a percentage of the 1992 rate.

Note: Columns are numbered 1-9 for ease of reference.

Table 3

1994 Employment Rates and 95 Percent Confidence Intervals (CI) Among People Not Employed in 1992, by Disability Status in Each Year, and by Gender and Race/Ethnicity

	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
		1994 Status							
				Without Disability 1994			With Disability 1994		
1992 Status	Total[1] (1,000s)	Employment Rate (%)	(95% CI)	Total (1,000s)	Employment Rate (%)	(95% CI)	Total (1,000s)	Employment Rate (%)	(95% CI)
All People									
Total not employed in 1992	6,932	13.1	(11.6, 14.7)	3,263	19.9	(17.5, 22.2)	3,669	7.1	(5.2, 9.1)
Without disability	3,429	18.3	(15.7, 20.8)	2,824	19.6	(16.8, 22.3)	605	12.3	(7.0, 17.6)
With disability	3,503	8.1	(6.1, 10.0)	439	21.9	(13.7, 30.2)	3,064	6.1	(4.1, 8.0)
Men									
Total not employed in 1992	2,230	15.3	(12.3, 18.2)	843	30.9	(25.2, 36.5)	1,387	5.8	(3.5, 8.2)
Without disability	922	27.9	(22.6, 33.2)	741	29.8	(24.3, 35.3)	181	20.3	(9.3, 31.2)
With disability	1,308	6.4	(3.6, 9.1)	102	38.8 *	(14.5, 63.1)	1,206	3.6 *	(1.5, 5.8)
Women									
Total not employed in 1992	4,702	12.1	(10.1, 14.1)	2,420	16.1	(13.1, 19.0)	2,282	7.9	(5.4, 10.5)
Without disability	2,506	14.7	(12.0, 17.5)	2,083	15.9	(12.8, 19.1)	423	8.9	(3.8, 14.0)
With disability	2,195	9.1	(6.3, 11.8)	337	16.9	(8.6, 25.1)	1,859	7.7	(5.1, 10.2)
Non-Hispanic White									
Total not employed in 1992	5,301	13.8	(11.6, 15.9)	2,662	18.7	(16.0, 21.4)	2,639	8.8	(6.2, 11.3)
Without disability	2,763	17.4	(14.5, 20.3)	2,296	18.1	(14.9, 21.2)	467	14.1	(7.4, 20.8)
With disability	2,538	9.8	(7.3, 12.4)	366	22.6	(13.0, 32.2)	2,171	7.7	(5.3, 10.0)
All Other Racial/Ethnic Groups									
Total not employed in 1992	1,631	11.0	(8.1, 14.0)	601	25.1	(18.5, 31.8)	1,030	2.8	(1.3, 4.4)
Without disability	666	21.9	(15.9, 28.0)	528	26.0	(18.7, 33.2)	137	6.3 *	(0.3, 12.4)
With disability	965	3.5	(1.6, 5.5)	72	18.7 *	(5.6, 31.9)	893	2.3 *	(0.7, 3.9)

Source: Health and Retirement Survey, Waves 1 and 2

[1] Total excludes people who died between the first and second interviews.

* Estimate has poor statistical reliability (RSE > 30%)

Note: Columns are numbered 1-9 for ease of reference.

Table 4

1994 Employment Rates and 95 Percent Confidence Intervals (CI) for People Employed in 1992, by Disability Status in Each Year, and by Gender and Race/Ethnicity

	1	2	3	4	5	6	7	8	9
				1994 Status					
				Without Disability 1994			With Disability 1994		
1992 Status	Total[1] (1,000s)	Employment Rate (%)	(95% CI)	Total (1,000s)	Employment Rate (%)	(95% CI)	Total (1,000s)	Employment Rate (%)	(95% CI)
All People									
Total employed in 1992	16,093	85.4	(84.4, 86.3)	12,685	88.9	(87.9, 89.9)	3,408	72.2	(69.6, 74.7)
Without disability	13,118	86.7	(85.5, 87.8)	11,489	89.0	(88.0, 90.0)	1,629	70.2	(66.1, 74.3)
With disability	2,975	79.7	(77.3, 82.0)	1,196	88.1	(84.6, 91.7)	1,780	74.0	(70.3, 77.7)
Men									
Total employed in 1992	8,759	86.7	(85.2, 88.3)	6,895	90.5	(89.2, 91.9)	1,863	72.8	(68.3, 77.3)
Without disability	7,136	88.1	(86.4, 89.9)	6,242	90.6	(89.0, 92.1)	894	71.1	(64.2, 77.9)
With disability	1,623	80.6	(76.9, 84.4)	653	90.0	(85.9, 94.1)	969	74.3	(68.6, 80.0)
Women									
Total employed in 1992	7,335	83.7	(82.2, 85.3)	5,790	87.0	(85.4, 88.6)	1,545	71.5	(67.5, 75.4)
Without disability	5,982	84.9	(83.3, 86.5)	5,247	87.1	(85.5, 88.7)	734	69.1	(64.2, 74.0)
With disability	1,353	78.5	(74.8, 82.2)	542	85.9	(79.6, 92.1)	810	73.6	(67.5, 79.7)
Non-Hispanic White									
Total employed in 1992	13,391	85.9	(84.9, 86.9)	10,516	89.1	(88.1, 90.1)	2,875	74.1	(71.2, 77.1)
Without disability	10,791	87.1	(85.9, 88.3)	9,474	89.1	(87.9, 90.3)	1,316	72.5	(68.2, 76.9)
With disability	2,600	80.9	(78.3, 83.4)	1,042	89.0	(85.3, 92.7)	1,558	75.5	(71.5, 79.4)
All Other Racial/Ethnic Groups									
Total employed in 1992	2,703	82.8	(79.7, 85.9)	2,169	88.0	(86.0, 89.9)	533	61.7	(52.3, 71.1)
Without disability	2,327	84.7	(81.5, 87.8)	2,015	88.4	(86.7, 90.2)	312	60.3	(47.2, 73.5)
With disability	375	71.3	(63.8, 78.7)	154	82.3	(74.1, 90.5)	221	63.6	(51.6, 75.6)

Source: Health and Retirement Survey, Waves 1 and 2

[1] Total excludes people who died between the first and second interviews.

Note: Columns are numbered 1-9 for ease of reference.

Table 5

Odds Ratios (OR) and 95 Percent Confidence Intervals (CI) for 1994 Employment Among People With and Without Disability in 1992 and 1994, by Gender and Race/Ethnicity (Adjusted for Demographic Characteristics and Health Status)[1]

	1994 Status			
	No Disability		Disability	
1992 Status	OR	95% CI	OR	95% CI
Men				
Without disability	(reference group)		0.3	(0.2, 0.4)
With disability	1.2	(0.7, 2.0)	0.3	(0.2, 0.4)
Women				
Without disability	(reference group)		0.4	(0.3, 0.6)
With disability	1.0	(0.7, 1.6)	0.5	(0.4, 0.7)
Non-Hispanic White				
Without disability	(reference group)		0.4	(0.3, 0.5)
With disability	1.2	(0.8, 1.6)	0.4	(0.4, 0.6)
All Other Racial/Ethnic Groups				
Without disability	(reference group)		0.2	(0.1, 0.3)
With disability	0.7	(0.4, 1.3)	0.2	(0.1, 0.3)

Source: Health and Retirement Survey, Waves 1 and 2

[1] Adjusted for age, education, marital status, physical and mental health status, region, 1992 employment status, work history, 1992 self-employment and part-time employment, and change in marital status (between 1992 and 1994)